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## Searches for direct pair production of third generation squarks and long lived particles with the ATLAS detector

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Naturalness arguments for weak-scale supersymmetry favour supersymmetric partners of the third generation quarks with masses not too far from those of their Standard Model counterparts, which would give rise to large production rates at the LHC. Several supersymmetric models also predict massive long-lived supersymmetric particles. If charged, these might be directly detected through abnormal specific energy loss and time-of-flight techniques. This talk presents recent ATLAS searches for direct production of top and bottom squarks and for long lived supersymmetric R-hadrons. Results from the analysis of 13 TeV proton-proton collisions will be presented.

### Summary

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